RVSM Frequently Asked Questions (FAQs)

Section 1: FAQ's General

1.1 FAQ: Aircraft: World-wide RVSM Eligibility. If an aircraft is RVSM compliant, is it eligible for RVSM operations world-wide?

Yes. An aircraft found to meet the standards of part 91 Appendix G is eligible for RVSM operations world-wide. RVSM standards were developed in ICAO groups to apply globally, **however,** operators must adopt operational policies and procedures specific to individual areas of operations.

1.2 FAQ: Database for RVSM Approvals. What is the U.S. Operator/Aircraft RVSM Approvals Database used for?

ATC does not use the RVSM approvals database in real time to either deny or grant clearance into RVSM airspace. The Separation Standards Analysis Branch at the FAA Technical Center maintains the database to track the approval status of operators and aircraft and to identify unapproved operators that are operating in RVSM airspace without RVSM authority.

1.3 FAQ: Data Package. What does the term "Data Package" refer to?

The term "Data Package" as used in AC 91-85 refers to the data, analysis and documents submitted to an Aircraft Certification Office to obtain RVSM airworthiness approval for an aircraft group or for non-group approval.

1.4 FAQ: MEL (Minimum Equipment List). Am I required to operate under an MEL?

No. However, if you do operate under an MEL and conduct RVSM operations, then the MEL must conform to Global Change (GC) 59. GC 59 is posted on the RVSM Documentation Webpage under "Documents Applicable to All RVSM Approvals".

1.5 FAQ: Non-RVSM Aircraft Policy/Procedures. Where is policy and procedures for Non-RVSM aircraft operation in DRVSM airspace be published?

See U.S. Aeronautical Information Manual, Chapter 4, Section 6, Procedures for Accommodation of Non-RVSM Aircraft

1.6 FAQ: TCAS. Is TCAS equipage specifically required for RVSM operations?

No. The regulations that provide TCAS equipage requirements are Sections 121.356, 125.224, 129.18 and 135.180. These regulations do **not** relate TCAS equipage to RVSM. However, if your aircraft is equipped with TCAS II in RVSM airspace, it must be a TCAS II that meets
TSO C-119b (Version 7.0), or a later version, unless otherwise authorized by the Administrator."

1.7 FAQ: Transponder Requirements. Will there be special requirements for the operation of transponders in Domestic U.S. RVSM airspace?

No. Part 91 Section 91.215(b) and (c) require pressure altitude reporting transponder equipage for operation in U.S. Class A airspace (FL 180-600). 91.215(d) states that if a transponder becomes inoperative enroute, a request to continue flight with an inoperative transponder may be made to the ATC facility having jurisdiction over the airspace. The requirements will not change for RVSM implementation in the U.S.

Section 2: FAQs on RVSM Height Monitoring

2-1. FAQ: Documents and Guidance. Where can documents explaining monitoring systems, operator requirements and procedures be found?

All of the documents referred to in this list of Monitoring FAQ's are posted on the RVSM Documentation Webpage in the "Monitoring Requirements and Procedures" section.

Requirements. Operators that have been issued an U.S. RVSM authorization will be required to conduct initial monitoring within six months of date of issue and must conduct monitoring every two years or within intervals of 1,000 flight hours per aircraft, whichever period is longer, in accordance with the aircraft categories as presented in the current version of the (North American) RVSM Minimum Monitoring Requirements chart. The RVSM Minimum Monitoring Chart is coordinated with the North American Approvals Registry and Monitoring Organization (NAARMO) and updated periodically to reflect changes in aircraft data. The RVSM Minimum Monitoring Requirements Chart will be posted to the FAA RVSM Webpage in documentation section "Monitoring Requirements/Procedures".

Note: Regarding the initial monitoring within 6 months see question 2-2 below.

2-2. FAQ: Previous monitoring results relating to transfer of ownership . If an aircraft has been successfully monitored previously and a new owner can demonstrate that the aircraft has been continuously maintained in standard airworthiness condition and the approved maintenance program is current, the previous monitoring can be used to meet the RVSM monitoring requirements. The time frames associated with the RVSM monitoring policy apply.

Example 1. If an operator purchases an aircraft and requires issuance of a new RVSM authorization and can demonstrate that the aircraft has a previous successful monitoring and meets the airworthiness and monitoring requirements above he has the remaining balance of the monitoring time to have the aircraft monitored (e.g., 2 years or 1000 flight hours, whichever is longer from the last successful monitoring.)

Example 2.: If an operator requires issuance of a new authorization and the aircraft has not been monitored (or can't be shown to have been monitored) within the previous 2 years or 1000 flight hours, whichever is longer, he has 6 months to get it monitored.

2-3. FAQ: Monitoring Objectives. What are the objectives of monitoring?

Monitoring objectives are to identify individual aircraft that are not performing to RVSM standards, identify any adverse altitude-keeping trends for individual aircraft types and provide data for use in safety analysis.

2-4. FAQ: Required Operator Participation. Are operators required to participate in the monitoring program? What are the regulatory requirements?

With reference to the assertion that there is no regulatory requirement for height monitoring, operators should review 14 CFR Part 91.180 and 14 CFR Part 91 Appendix G,

The following requirements in the regulations are met by height monitoring.
a) 14 CFR Part 91.180 - Operations within airspace designated as Reduced Vertical Separation Minimum airspace. (a) Except as provided in paragraph (b) of this section, no person may operate a civil aircraft in airspace designated as Reduced Vertical Separation Minimum (RVSM) airspace unless: (1) The operator and the operator's aircraft comply with the minimum standards of **appendix G of this part**; and (2) The operator is authorized by the Administrator or the country of registry to conduct such operations. (b) The Administrator may authorize a deviation from the requirements of this section

b) 14 CFR Part 91 Appendix G, Section 2 (d), (e) and (f) stipulates the requirements for altimetry system error containment and that , "...the Administrator must find that the altimetry system error (ASE) is contained as follows:..."
(Ed. comment: Height monitoring is the only method to detect aircraft with ASE that is not contained within requirements.)

c) 14 CFR Part 91 Appendix G, Section 4 (b) (2) advises that, "No person may show, on the flight plan filed with air traffic control, an operator or aircraft as approved for RVSM operations, or operate on a route or in an area where RVSM approval is required, unless, "...The aircraft has been approved and complies *(Ed. comment: Word is underlined to emphasize an ongoing commitment)* with the requirements of Section 2 of this appendix." *(Ed. comment: Compliance with the performance requirements in Section 2 can only be verified through height monitoring and is ongoing)*

d) 14 CFR Part 91 Appendix G, Section 3(c)(1) and (2) stipulates how the operator "In a manner prescribed by the Administrator, must provide evidence that: 1) it is capable to operate and maintain each aircraft or aircraft group for which it applies for approval to operate in RVSM airspace..." *(Ed. comment: Height monitoring is the only method to verify ASE within performance limits and, further, it is the manner prescribed by the Administrator.)*

e) 14 CFR Part 91 Appendix G, Section 6(b) advises that, "Each operator shall report to the Administrator each event in which the operator's aircraft has exhibited the following altitude-keeping performance: ... (b) Altimetry system error of 245 feet or more;..."
(Ed. Comment: ASE containment can only be verified by height monitoring.)

f) 14 CFR Part 91 Appendix G, Section 7. Removal or Amendment of Authority provides for Administrator action if "...the operator is not complying, or is unable to comply with this appendix or subpart H..."

Height keeping is required by the Federal Aeronautical Regulations and implemented in accordance with FAA policy.

2-5. FAQ: RVSM Letters of Authorization (LOA) or Operations Specification (OpSpec) and Monitoring. Am I required to complete my monitoring requirements prior to obtaining RVSM authority (i.e., a Letter of Authorization or Operations Specifications, as appropriate)?

No. See the Minimum Monitoring Requirements charts. For DRVSM, you must complete your monitoring requirements not later than 6 months after you receive RVSM authority **or** 6 months after the

start of DRVSM (Domestic U.S.RVSM) operations, whichever occurs later. In other areas of operation, you have up to 6 months after obtain RVSM authority to complete your monitoring requirements.

2-6. FAQ: Number of Aircraft to be Monitored. How many aircraft from an operator's fleet are required to be monitored?

In general, operators are only required to have a portion of their fleets monitored. Monitoring requirements are published in the North American Minimum Monitoring Requirements Charts posted under "Monitoring Requirements and Procedures".

2-7. FAQ: Monitoring Groups. What are monitoring groups and where are they listed?

Monitoring groups are listed on the Minimum Monitoring Requirements charts. For monitoring purposes, aircraft types can be placed in a single monitoring group. For example, the A319, A320 and A321 are categorized as a single monitoring group.

2-8. FAQ: GMU (GPS-based Monitoring Unit) FAQ's and Information. Where can I find FAQ's and information on scheduling GMU monitoring?

See monitoring procedures for U.S. Operators under the "Monitoring Requirements/Procedures" section of the FAA RVSM webpage.

2-9. FAQ: 1000-hour Requirement. If I fly my RVSM approved aircraft less than 1000 flight hours in 2 years. Am I required to have it monitored within a 2-year period.

No. The policy states that aircraft will be monitored every two years or 1000 flight hours, whichever is longer. However, if your aircraft has not had a valid monitoring in the last 2 years you may be contacted by your local Flight Standards District Office (FSDO) or Certificate Management Office (CMO) and asked to provide data that shows you have flown less than 1000 hours from the last successful monitoring.

The 1000 flight hour time limit clock starts on the date of the last successful monitoring.
NOTE: The 2-year time limit clock also starts on the date of the last successful monitoring.

2-10. FAQ: MMR Chart. If I purchase an aircraft of the same model and type series, for which I already hold a valid RVSM authorization, does it have to be monitored?

It depends. NOTE 9 of the RVSM MMR Chart states: If an operator adds new RVSM compliant airframes of a type for which it already has RVSM operational approval and has completed monitoring requirements for the type in accordance with the attached table, the new airframes are not required to be monitored. If an operator adds new RVSM compliant airframes of an aircraft type for which it has NOT previously received RVSM operational approval, then the operator should complete monitoring in accordance with the attached table.

Example 1. You own a fleet of three Gulfstream 5's (GLF5) that have a valid monitoring in the last two years. You purchase of a fourth Gulfstream 5, it would not require monitoring because you already meet the minimum requirement of two airframes. A GLF5 is a group approved aircraft in category 1. This is specified in Table 1 of the Minimum Monitoring Chart.

Example 2.

You own a fleet of three Gulfstream 3's (GLF3) and 2 of the aircraft have a valid monitoring in the last two years. You purchase two more GLF3's, At least one would require monitoring to meet the 60% requirement (3-aircraft) within 6 months. A GLF3 is a group approved aircraft in category 2. This is specified in Table 1 of the Minimum Monitoring Chart.
Note: airframes must be RVSM compliant upon delivery

2-11. FAQ: MMR Chart. I just purchased a fleet of 4 Boeing 767's and applied for an U.S. RVSM operational authorization. How many must be monitored and when?

In accordance with FAA Policy and Note 2 of the RVSM MMR CHART, operators must show a plan for meeting applicable monitoring requirements. Initial monitoring of two airframes (for MMR chart category 1) should be completed as soon as possible but not later than 6 months after the issue of RVSM operational authority. A minimum of two airframes (MMR chart category 1) shall have a valid monitoring every two years or 1000 flight hours whichever period is longer.

2-12. FAQ: Determination of Monitoring. How will the FAA know if the aircraft has been monitored on time?

The FAA will periodically review its database of all RVSM aircraft monitoring to determine which aircraft have not met the two (2) year monitoring requirement and notify the applicable FSDO/CMO/CHDO, etc. to investigate.

2-13. FAQ: RVSM Monitoring Time Limits. When does the 2 year or the 1000 hour time limit begin?

See Question #2-9

2-14. FAQ: RVSM Proof of Monitoring. What is an acceptable method to advise FSDO/CMO/CHDO that timely, successful monitoring has been completed.

Notification of a successful monitoring can be made in several ways:

- A report of successful monitoring supplied by GMS Support Contractor, e.g., CSSI Inc., ARINC
- The entry of successful Aircraft Geometric Height Measurement Element (AGHME) monitoring on the NAARMO AGHME webpage.
- Evidence of successful monitoring by another Regional Monitoring Agency, such as EUROCONTROL or the UK NATS Central Monitoring Agency in accordance with the directions available on the FAA RVSM Documentation webpage.

Note (1): If you conducted a monitoring flight and your aircraft is not listed in the RVSM Approvals database this is not necessarily an indication that the aircraft has not been successfully monitored. Please contact NAARMO if this occurs.
Note (2): Operators should be aware that the AGHME web page is only updated once a month, typically around the 15th. Also, it takes approximately 30 days for an AGHME measurement to be processed and posted to the approvals data base.

2-15. FAQ: Application for Monitoring. For the new two year requirement, do I have to fill out an "Application for Monitoring" if I already have an established RVSM monitoring program.

No, the application for monitoring is designed for an operator requesting an initial RVSM authorization. An operator that has a valid RVSM authorization and has already established a

monitoring program can check the RVSM Approvals Data Base to determine when their last valid monitoring was recorded. For North American Operators the data base can be accessed from the FAA RVSM Website under RVSM Documentation. The files are located under the section heading of "**US RVSM Approvals".** The weblink for this site is:

https://www.faa.gov/air_traffic/separation_standards/rvsm/documentation/

2-16. FAQ: Previous monitoring results relating to transfer of ownership . If an aircraft has been successfully monitored previously and a new owner can demonstrate that the aircraft has been continuously maintained in standard airworthiness condition and the approved maintenance program is current, the previous monitoring can be used to meet the RVSM monitoring requirements. The time frames associated with the RVSM monitoring policy apply.

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Example 2.: If an operator requires issuance of a new authorization and the aircraft has not been monitored (or can't be shown to have been monitored) within the previous 2 years or 1000 flight hours, whichever is longer, he has 6 months to get it monitored.

2-17. FAQ RVSM Monitoring and Maintenance Programs. Does the maintenance program have to be re-issued to address the minimum monitoring requirements?

No. RVSM aircraft height monitoring is a component of the RVSM system quality control not continued airworthiness. As such, the monitoring requirements are operational in nature and do not need to be described in the maintenance program. The approved maintenance program is required to provide for continued airworthiness of the aircraft without periodic monitoring.